

Cliff 156
Cliff 234

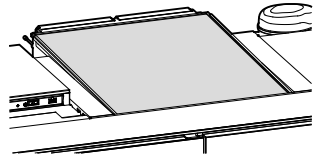
7085 922-00

LIEBHERR

Content

Appliance dimensions.....	34
Cable lengths.....	35
Requirements for assembly	35
Requirements for the place of installation.....	35
Minimum distance to ceiling.....	35
Requirements for a remote data transmission connection	36
Bus connection.....	36
Addressing.....	36
Requirements for the electrical connection	36
Operation (LSC version only).....	37
Alarm channels.....	37
Scope of delivery	42
Standard (per appliance).....	42
Accessories (depending on configuration)	42
Special tools required.....	42
Bottom front cover package (depending on configuration)	43
Side wall with/without glass package	43
Bottom side cover package	44
ISO partition package.....	44
Plexiglas panel package.....	45
Plexiglas partition package.....	46
Transport and unpacking	46
Moving the appliances to the place of installation	46
Possible configurations	47
Installing an individual appliance.....	47
Installing appliances in a row.....	48
Installing the appliances in a block or in island form.....	49
Installation and connection	50
Removing equipment	50
Positioning the appliance	50
Securing the appliance to the wall / block (optional).....	51
Fitting the side wall.....	51
Fitting the ISO partition.....	52
Fitting the Plexiglas panel.....	53
Fitting the cables.....	54
External alarm (floating alarm output)	55
Adjusting the door angle	56
Adjusting the door closing force	56
Fitting the covers.....	57
Fitting the Plexiglas partition.....	57
Fitting the front cover 1	58
Fitting the front cover 2.....	58
Fitting the side cover	58
Fitting the equipment.....	58
Connecting appliances.....	59
Assigning addresses to the appliances	59
Commissioning the appliances	60
Checks	60
Technical data.....	61

Safety instructions and warnings

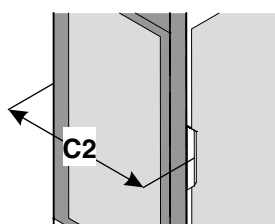
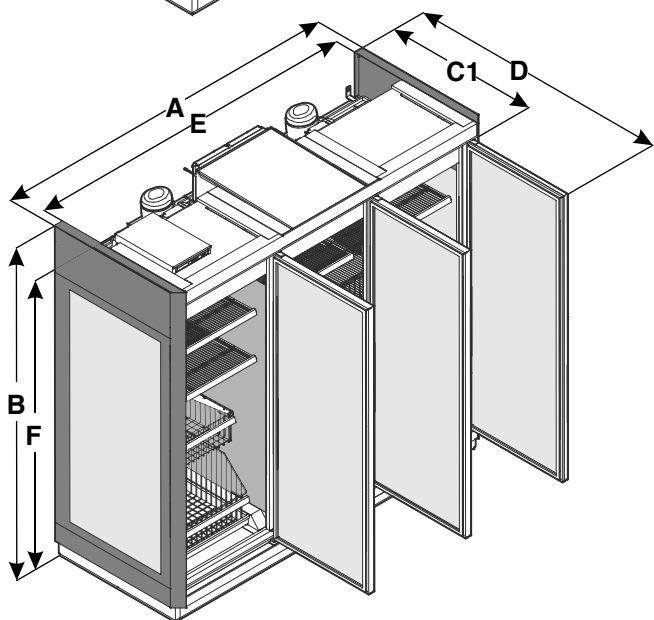
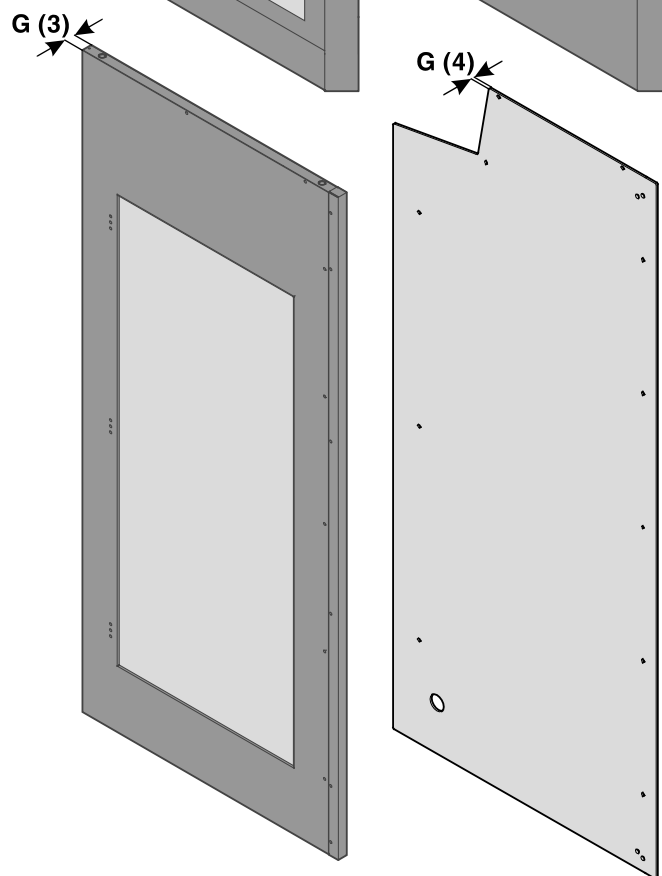
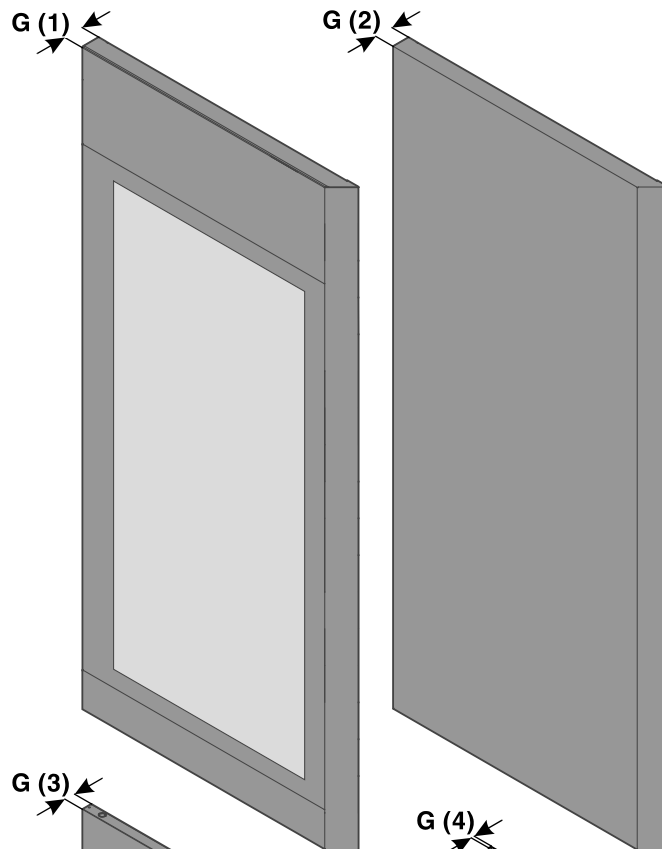
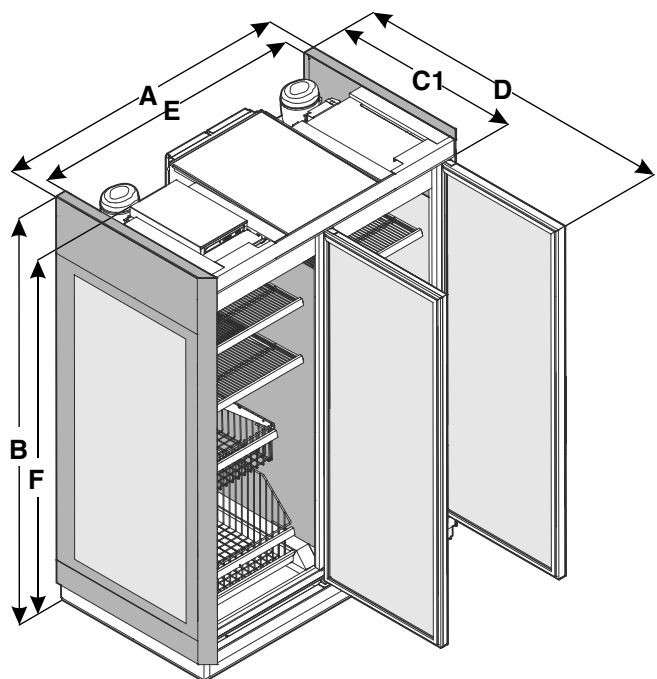
- **WARNING:** do not seal ventilation openings on the appliance housing or enclosure.
- 
- **WARNING:** only use the mechanical devices or other aids recommended by the manufacturer to help speed up the defrosting process.
 - **WARNING:** do not damage the refrigerant circuit.
 - **WARNING:** do not use any electrical devices in the refrigerator compartment which do not comply with the design recommended by the manufacturer.
 - **WARNING:** the mains cable must not be damaged while installing the appliance.
 - **WARNING:** multi-sockets or distributor strips and other electronic devices (such as halogen transformers) must not be positioned and operated at the rear of appliances.
 - **WARNING:** danger of injury through electric shock. There are live parts under the cover. Only have the interior LED light replaced or repaired by customer service staff or trained personnel.
 - **WARNING:** risk of injury from the LED lamp. The light intensity of the LED light complies with laser class RG 2. If the cover is defective, do not look directly at the light through optical lenses from close distance. This may damage your eyes.
 - **WARNING:** this appliance must be secured as described in the operating instructions (Installation instructions) to rule out any potential risks due to its instability.
 - This appliance can be used by children of 8 years old and over, and also by persons with restricted physical, sensory or mental capacity or lack of experience and knowledge, if they are supervised or have been instructed on safe use of the appliance and understand the resulting risks. Children must not be allowed to play with the appliance. Cleaning and user maintenance must not be carried out by children without supervision.

- Do not store any explosive substances, such as aerosol containers with flammable propellant gas, inside the appliance.
- To prevent injury and damage to property, the appliance should only be installed by 3 people.
- After unpacking it, check the appliance for signs of damage. Contact the supplier if it is damaged. Do not connect the appliance to the mains power supply.
- Avoid prolonged skin contact with cold surfaces (e.g. chilled/frozen products). If necessary, take safety action (e.g. gloves).
- All repairs and work on the appliance may only be carried out by customer service personnel or other trained personnel. The same applies to changing the mains power cable.
- Only carry out repair and other work on the appliance when the mains plug has visibly been disconnected.
- In the event of a fault, pull out the plug or switch off the fuse.
- When disconnecting the appliance from the mains, pull on the plug. Do not pull on the cable.
- Ensure that food which has been stored for too long is not consumed. Dispose of food which has been stored for too long properly.
- Do not allow naked flames or ignition sources to enter the appliance.
- Alcoholic drinks or other vessels containing alcohol should be sealed tightly for storage.

Appliance dimensions

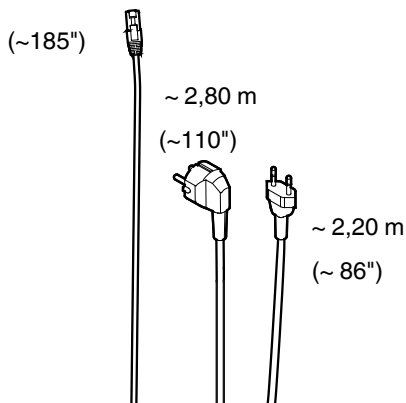
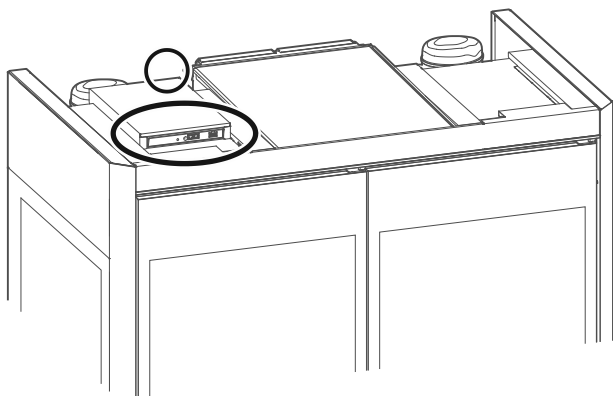
	Cliff 156	Cliff 234
A [mm] glass side wall	1693	2475
A [mm]	1683	2465
B [mm]	2311	2311
C1 [mm]	994	994
C2 [mm] with handle	1015	1015
D [mm]	1726	1726
E [mm]	1563	2345
F [mm]	2345	2345

	G [mm]
Glass side wall (1)	65
Side wall (2)	60
ISO partition (3)	35
Plexiglas panel (4)	6



Cable lengths

Free cable lengths from strain relief device outlet.



Requirements for assembly

The assembly must comply with the applicable regulations, standards, directives and laws where they apply to the subject of the contract.

Work on the electrical system (electrical connection, cable duct or sockets) may only be carried out by a qualified electrician.

Note

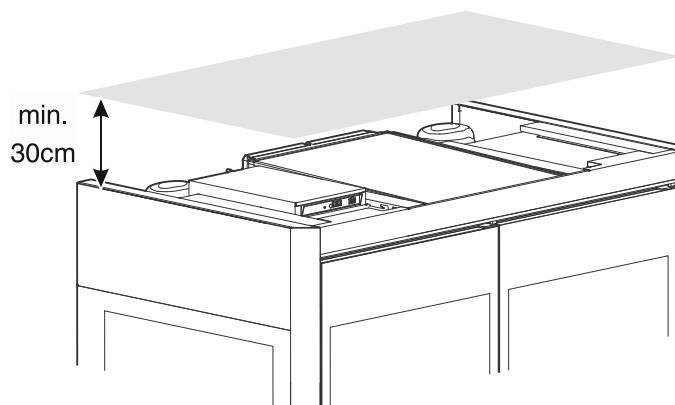
To avoid the assembly work being delayed or even stopped, installation of the appliances should be carefully planned in advance. It must be ensured that all the requirements are satisfied.

Requirements for the place of installation

Ensure that the place of installation for assembling the appliances is suitable and properly prepared.

- Any existing old appliances must be removed and disposed of in an environmentally friendly manner.
- The place of installation must be free of dirt and moisture.
- The evenness of the floor surface must comply with the usual limit values for evenness deviations set out in DIN 18202.
- The ambient temperature must correspond to the climate rating. The climate rating applicable to your appliance is shown in the operating instructions.
- The more coolant there is in the appliance, the larger the room in which the appliance is installed must be. If the room is too small, any leak may create a flammable mixture of gas and air. For each 8 g of coolant the installation space must be at least 1 m³. Information on the coolant is on the model plate inside the appliance.

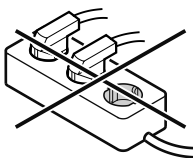
Minimum distance to ceiling



Requirements for the electrical connection

- We recommend that separate circuits are installed for the lighting and refrigeration units. The sockets must be clearly distinguishable.
- Two sockets must be prepared for each appliance for these two circuits. The sockets must be permanently fixed and clearly labelled.
- Each appliance must be protected by its own fuse.
- A separate fuse must be provided for the lighting.

NOTICE
Do not connect the appliance using an extension cable or extension socket.



Requirements for a remote data transmission connection

- A connection from the appliance blocks to the gateway location must be established on site using suitable sockets and cables (CAT5 or higher) with a bus topology.

Bus connection

Up to 120 appliances with CAN and 247 with MOD bus can be networked and integrated into the in-house system using one or more coupling modules.

Note

The alarm priority with CAN connectivity is limited as standard to a maximum of 2 when the appliance is delivered. This means that the forwarding of the alarm is restricted when the shop is closed. The setting can be changed if necessary by the gateway manufacturer. The list of alarm scenarios is included in the service documentation.

Addressing

Free addresses from the in-house system must be used to address the bus with one- to three-figure numbers being allocated for this purpose.

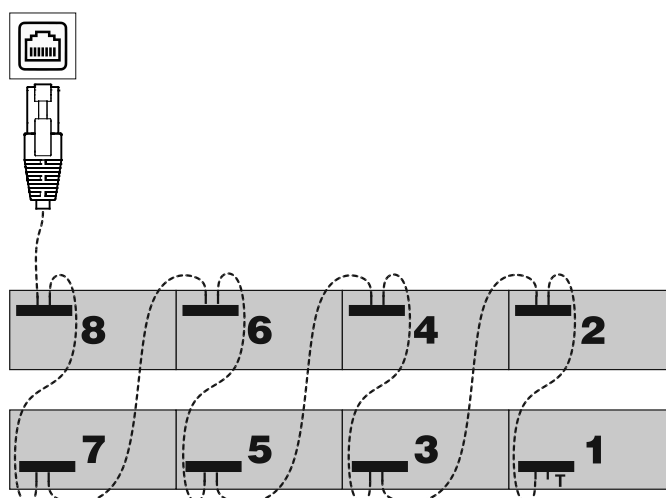
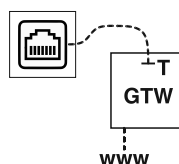
If the general contractor specifies an address space, it shall be used and documented.

The addresses are entered individually on each appliance, see "Assigning addresses to the appliances", page 59.

Each address may only be used once within the bus.

Depending on the system environment, we recommend that you use the appropriate coupling modules:

<p>Digital I/O Pin-Belegung 10pol Alarmkontakt: 1NO 2COM 6NC Eingang_ 4/5 Licht Ein 9/10 DI 2 optional CAN Bus Liebherr ST Pin-Belegung RJ-45: 2/7/8 BUS_L 3/6 GND 1/4/5 BUS_H</p>
--



T.....Termination enabled

- If a repeater is used, the termination must be enabled.

Operation (LSC version only)

Digital I/O Pin-Belegung 10pol Alarmkontakt: 1NO 2COM 6NC Eingang_ 4/5 Licht ein 9/10 DI 2 optional MODBUS RTU LSC Pin-Belegung RJ-45: 2/7/8 Data - 3/6 GND 1/4/5 Data + home.liebherr.com/lsc
--

- The adjustment range of the address in menu A has been extended to 1-247.
- An additional baud rate/parity setting menu point "bd" has been included:
- Menu bd step 1: The set baud rate is displayed in [Bit/s * 10] and can be adjusted using the cursor keys. The two leading and the two following numbers in the baud rate flash alternately:
 09|60 = 9600 baud,
 19|20 = 19200 baud,
 38|40 = 38400 baud,
 56|00 = 56000 baud.
- The parity is set after confirmation by pressing the SET key.
 Meaning:
 E1 = Even parity + 1 stop bit,
 n2 = No parity + 2 stop bits,
 o1 = Odd
 n1 = No parity + 1 stop bit
- The setting is saved by pressing the SET key. A short acknowledgement tone means that nothing has been changed. A long acknowledgement tone indicates that the interface parameters have been changed.

Alarm channels

Priority	Alarm colour	Meaning
1	Red	Alarm, transmitted even at night
2	Red	Alarm, not transmitted at night
3	Yellow	Alarm, transmitted; however, transmitting the alarm is of lower priority even during the day
0		No alarm; displayed only in the malfunction list, no red colouring in Frigodata XP (when the operating data are selected via the service interface)

Malfunction/Fault (Technical Wording, Development)	Table of error codes (Customer Service)	Max. Priority CAN ¹	Delay ²	Visual (audible) alarm (flashes)	Display message after unlocking	AUX	CANBus (Wurm, proprietary)	ModBus (LSC) ³
Power failure	Power failure	-	-		Yes (no display)	Yes (alarm = deenergised)	Yes (pseudo-failure)	Yes (pseudo-failure)
Sensor 1 (base sensor) break/short circuit	Air sensor	1	0	Yes	F1	Yes	Yes	Yes
Sensor 2 (stack mark) break/short circuit With LFT002, frame heater accessed	Stack mark sensor	1	0	Yes	F2	Yes/No	Yes/No	Yes/No
Sensor 3 (Condenser) break/short circuit	Condenser sensor	1	0	Yes	F3	Yes/No	Yes/No	Yes/No
Sensor 4 (limit sensor) break/short circuit	Evaporator sensor	1	0	Yes	F4	Yes	Yes	Yes
Control actual value, high temperature Occurs when the control actual value is above the target value plus the high temperature threshold No change of fault status during defrosting	High temperature alarm	1	Parameters long /short [min]	Yes; temperature flashes also	Temp. flashes and ↑	Yes	Yes	Yes
Control actual value, low temperature Occurs when the control actual value is below the target value minus the low temperature threshold No change of fault status during defrosting	Low temperature alarm	1	Parameters long /short [min]	Yes; temperature flashes also	Temp. flashes and ↓	Yes	Yes	Yes
Sensor 5 Motor compartment sensor break/short circuit	Motor compartment sensor	3	0	Yes	FE	Yes	Yes	Yes
Sensor 5 Motor compartment sensor high temperature Occurs if PCB temperature reaches 70°C is cancelled again under 60°C	High temperature (Condenser sensor/ Motor compartment sensor)	1	0	Yes	tE Temperatur Engine	Yes	Yes	Yes
Alarm HT, hot gas alarm	High temperature alarm after defrosting	1	10 s	Yes	Ht	Yes	Yes	Yes

Malfunction/Fault (Technical Wording, Development)	Table of error codes (Customer Service)	Max. Priority CAN ¹	Delay ²	Visual (audible) alarm (flashes)	Display message after unlocking	AUX	CANBus (Wurm, proprietary)	ModBus (LSC) ³
Defrost time too long	-	0 No message from V1.1	0	No	- No message from V1.1.	No	No	No
Parameter memory error Checksums test and recovery of parameter memory failed	Parameter memory error	1 Always reported with 1	0	Yes	EE From V.1.1	Yes	Yes	Yes
Bus system address conflict A Can address was assigned twice withdrawn approx. 30 s after change of the address	Bus address conflict	3 Cannot be sent due to conflict	ca. 30 s	Yes	co	Yes	Yes, if malfunction is remedied	No
Bus system address conflict A Modbus address was assigned twice	-			No			No	
Bus fault Telegrams cannot be sent withdrawn when communication is re- established or the Can address is set to 0 (no communication)	Bus fault	0 Since LBH001 V1.7x	ca. 30 s		bu	Yes (LBH001); No (LBH002 and LFT001)	Yes (LBH001); No (LBH002 and LFT001)	No
Real-time clock fault The set time is not plausible	Real-time clock	3	0	Yes	rc	Yes	Yes	Yes
Display communication fault Communication with the control panel is faulty	Communication error	2	120 s	Yes	nc (not connected) nach 60s	Yes	Yes	Yes
Temperature too high after mains power is connected (from LBH002 in other words all from construction year 2017)	Power failure	No message		No	nA	No	No	No

Malfunction/Fault (Technical Wording, Development)	Table of error codes (Customer Service)	Max. Priority CAN ¹	Delay ²	Visual (audible) alarm (flashes)	Display message after unlocking	AUX	CANBus (Wurm, proprietary)	ModBus (LSC) ³
Interior fan, group fault. Error message does not depend on the number or position of the error. Check interior fan. The message via the bus/malfunction list is generated per fan. Positive message after restart amounts to 120 min (debouncing) The timer only runs if the fan is required.	-	3	45 s	Yes, up until positive message	FA, until positive message	No	Yes	Yes
Failure of several fans If more than 50% of the installed fans fail	Interior fan	1	45 s	Yes; temperature flashes also	FA	Yes	Yes	Yes
Defrost water tray fan	Defrost water tray fan	3	45 s	Yes	Fd	Yes	Yes	Yes
Door open (switch is recognised as defective), group error at the display, individual messages via the bus and in the malfunction list	Door open	0	15 min	No	Do, until door closed again	No	No	No
Wrong type of display (for future applications): Appliance configured as an EU version, but the display is connected with °F or vice-versa. The coding of the display must be set correctly. This is defined in the report. Configuration: Type of chest freezer/country	Wrong type of display	3	0	Yes	FF	Yes	Yes	Yes

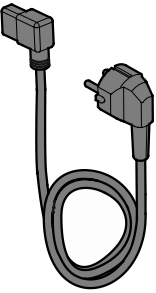
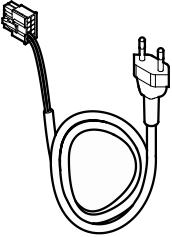
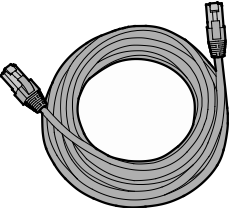
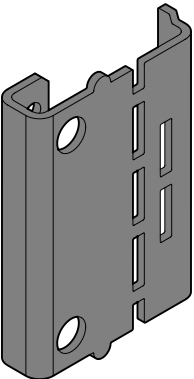
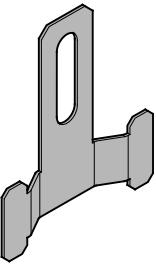
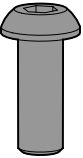

¹ Max. priority shows the highest possible priority with which the fault occurring is reported via data line. This is limited by the adjustment of appliance priority (parameter, default 2) at the CAN_{Wurm}*

² Delay: time from occurrence until signalling


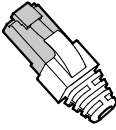
³ Depends on the index description, see home.liebherr.com/lsc

Scope of delivery

Standard (per appliance)

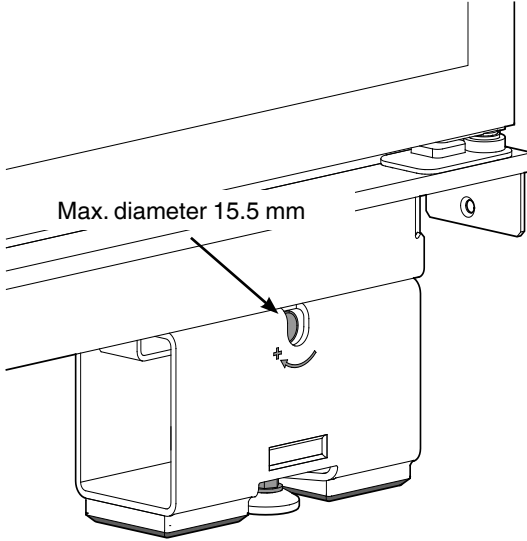
Quantity	Description
1	Appliance
1	Power connection cable 
1	Light cable for manual control 
1	Network cable 
6	Cover 
4	Bracket 
12	Screw 
12	Plug 
1	Service type plate
1	Operating instructions

Accessories (depending on configuration)

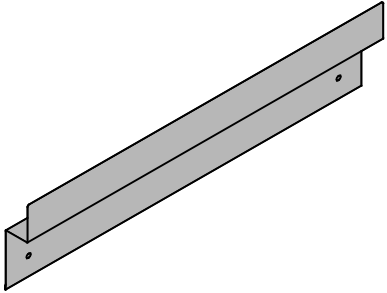
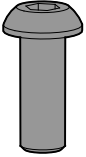
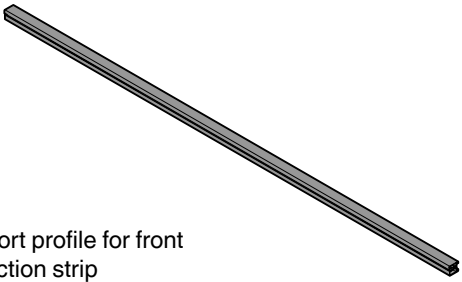
Quantity	Description
*	Release key 
*	Terminating resistor (T = Termination) 

*) depending on configuration

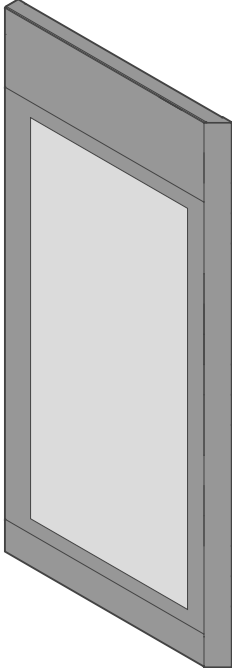
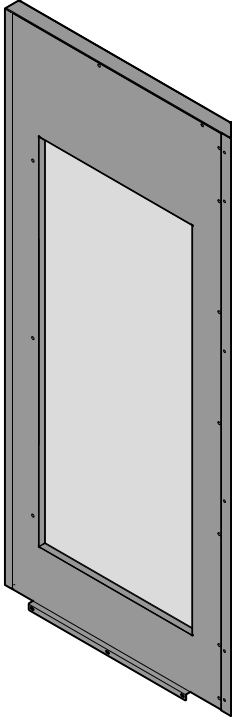
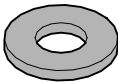
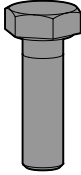

Special tools required

Quantity	Description
1	Bit extension 800 mm Bit size hexagon 5 mm  Max. diameter 15.5 mm
1	Crow bar
2	Screw clamps (approx. 1 m)

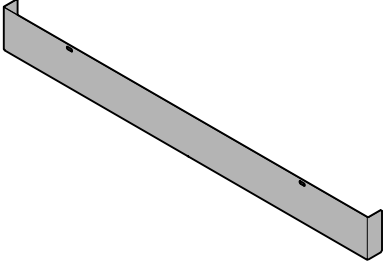
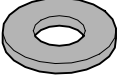
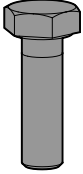
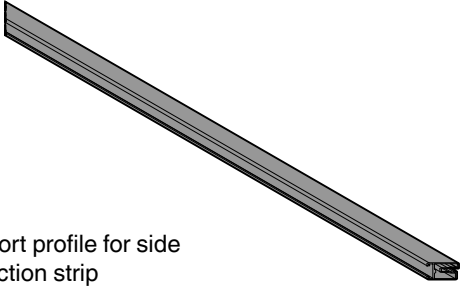
Bottom front cover package (depending on configuration)

Quantity	Description
1 per door	Cover 
2 per door	Screw 
1	Support profile for front protection strip 

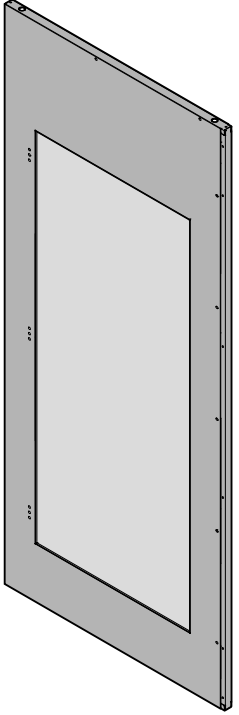
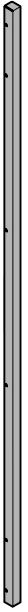
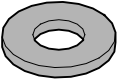
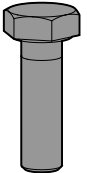
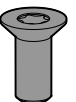
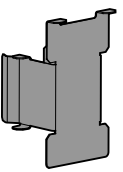
Side wall with/without glass package

Quantity	Description
1	Side wall, left 
1	Side wall, right 
16	Washer 
16	Screw 
18	Screw 

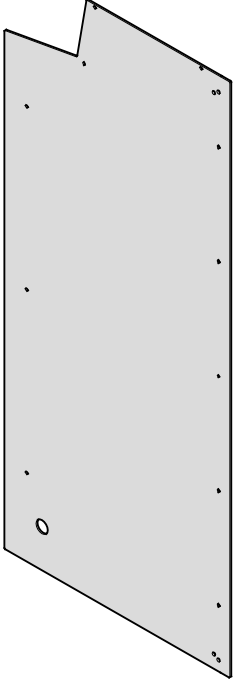

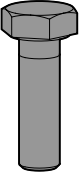
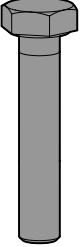
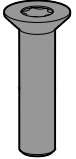
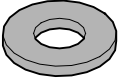
Bottom side cover package

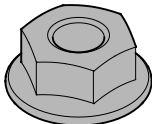
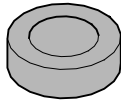
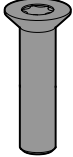
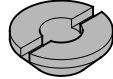
Quantity	Description
1	Cover 
2	Washer 
2	Screw M6 x 20 
2	Support profile for side protection strip 

ISO partition package

Quantity	Description
1	ISO partition 
1	Cover 
16	Washer 
16	Screw 
18	Screw 
1	Cover 

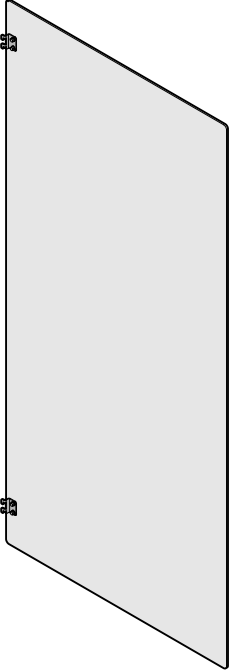
Plexiglas panel package

Quantity	Description
1	Plexiglas panel 
1	Cover 
2	Screw 
6	Screw 
2	Screw 
18	Washer 

Quantity	Description
10	Locking nut 
3	Washer 
5	Screw 
5	Countersunk nut 

Plexiglas partition package

Quantity	Description
1	Plexiglas partition



Transport and unpacking

The appliance is supplied on a mobile platform.

Check the appliance for transport damage before and while unpacking it. Report any damage (loose parts, dents, scratches, visible fluid leaks, etc.) without delay.

Remove the packaging and check that the delivery is complete.

Ensure that the appliance is not damaged while it is being transported and unpacked.

Notice

Ensure that the appliances are not damaged while they are being transported and unpacked.

Retrospective complaints cannot be accepted.



WARNING

Danger of suffocation due to packing material and plastic film!

Do not allow children to play with packaging material.

Dispose of the packaging material in compliance with current regulations.

Moving the appliances to the place of installation



Wear safety shoes!



Wear gloves!

Move the appliances to the place of installation using suitable equipment.

Notice

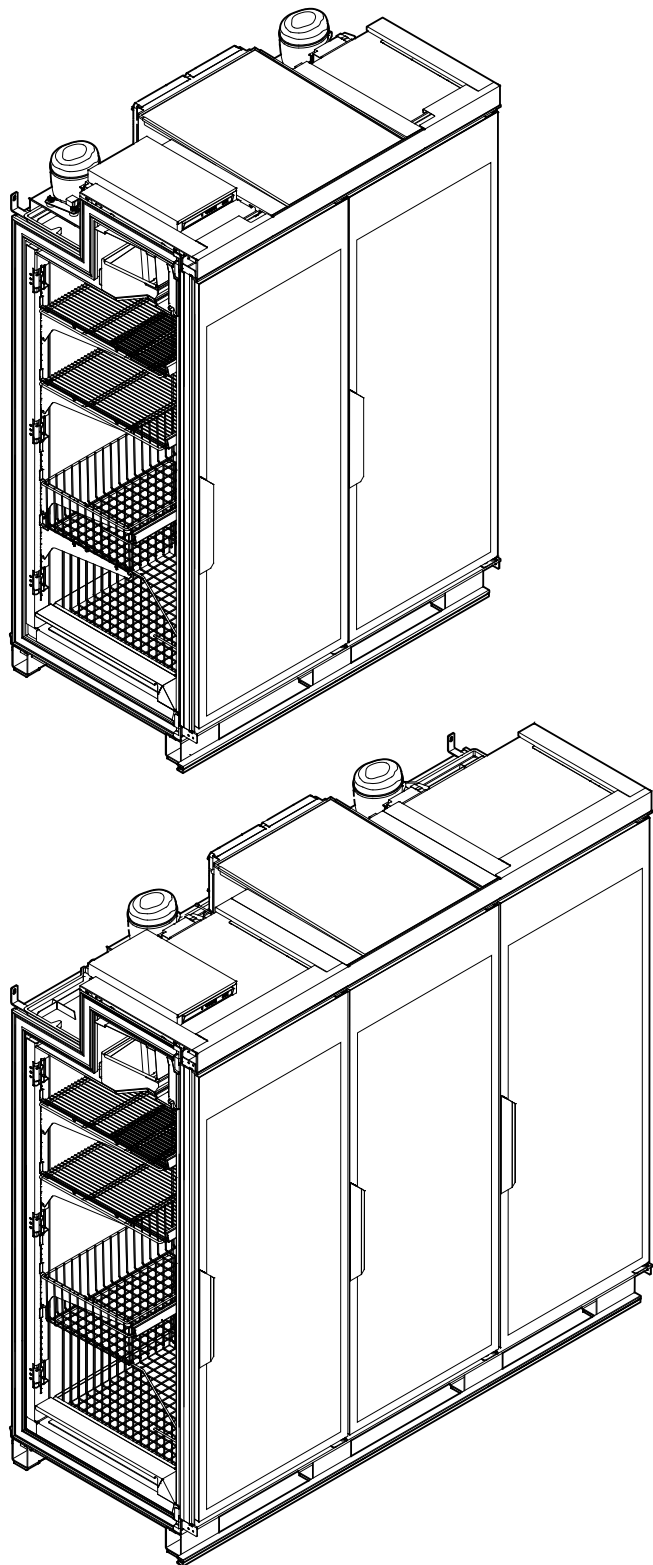
Ensure that the appliances are not damaged while they are being transported and unpacked.

Position the appliances in a line in the required configuration. If the appliances are to be installed in a block, arrange them in parallel.

Appliance weights

At least three people are required for the installation work.

	Weight [kg]
Cliff 156	450
Cliff 234	670



	Surface load [kg/m ²] at maximum weight of the appliance
Cliff 156	900
Cliff 234	860

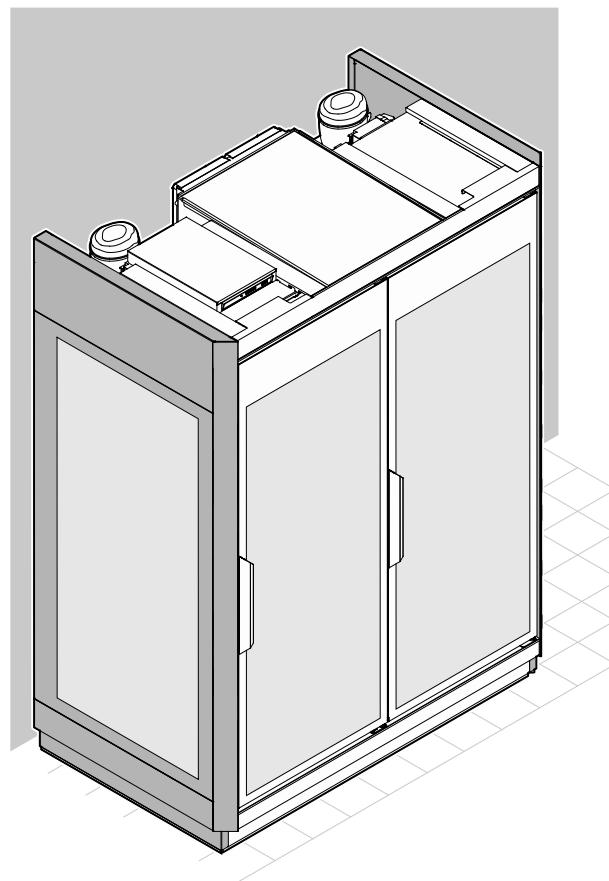
Possible configurations

Note

The "Requirements for the place of installation", page 35 and the "Requirements for the electrical connection", page 36, must be complied with for all configurations. If the appliances are networked, the "Requirements for a remote data transmission connection", Seite 36, must also be complied with.

Installing an individual appliance

Every model can be installed individually.



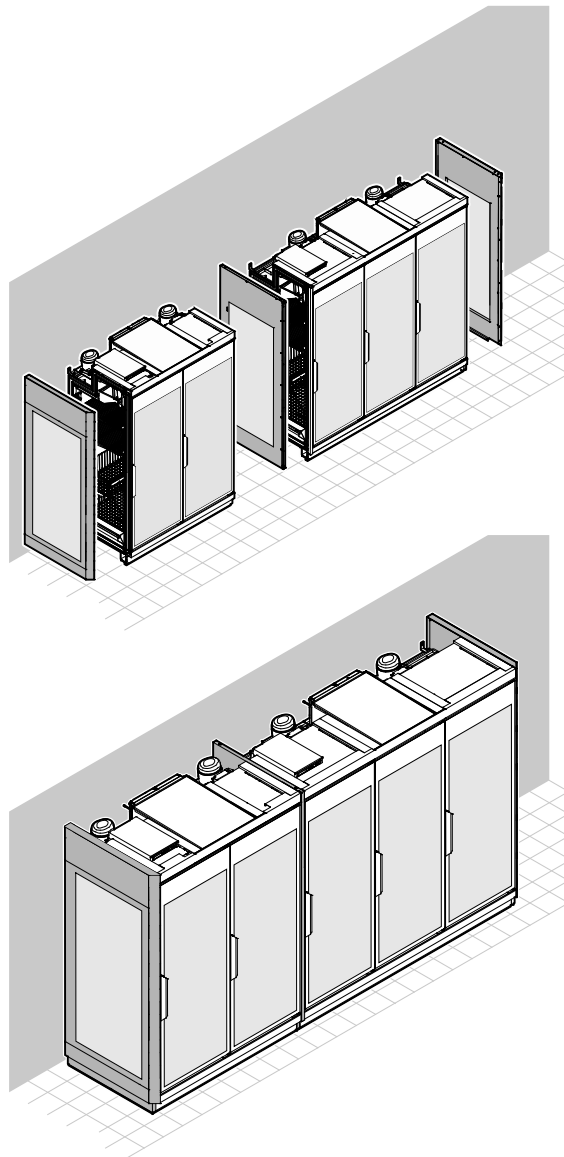
1. "Removing equipment", page 50
2. "Positioning the appliance", page 50

Note

Depending on the space available, step "Fitting the side wall" may have to be carried out first.

3. "Securing the appliance to the wall / block (optional)", page 51
4. "Fitting the side wall", page 51
5. "Fitting the cables", page 54
6. Optional: "Adjusting the door angle", page 56
7. Optional: "Adjusting the door closing force", page 56
8. "Fitting the covers", page 57
9. Optional: "Fitting the Plexiglas partition", page 57
10. "Fitting the equipment", page 58
11. "Fitting the front cover 2", page 58
12. "Fitting the side cover", page 58
13. "Connecting appliances", page 59
14. "Commissioning the appliances", page 60
15. Removing protective films from glass surfaces

Installing appliances in a row



1. "Removing equipment", page 50
2. "Positioning the appliance", page 50

Note

Depending on the space available, step "Fitting the side wall" may have to be carried out first.

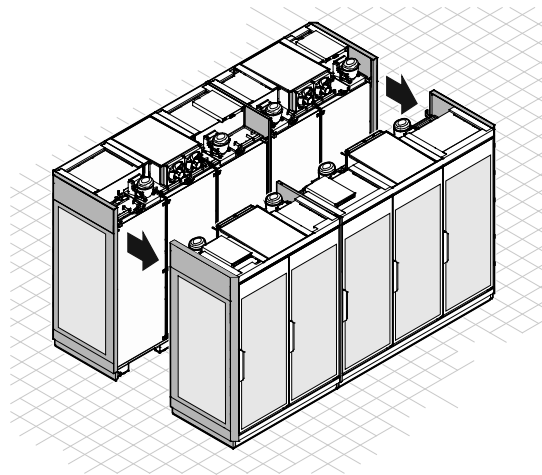
3. "Securing the appliance to the wall / block (optional)", page 51
4. "Fitting the side wall", page 51
5. "Fitting the ISO partition", page 52 or "Fitting the Plexiglas panel", page 53
6. "Fitting the cables", page 54

Notice

When pushing the appliances, it is vital that you ensure that no cables are jammed or damaged.

7. "Positioning the appliance", page 50
8. "Securing the appliance to the wall / block (optional)", page 51
9. "Fitting the side wall", page 51
10. "Fitting the cables", page 54
11. Optional: "Adjusting the door angle", page 56
12. Optional: "Adjusting the door closing force", page 56
13. "Fitting the covers", page 57
14. Optional: "Fitting the Plexiglas partition", page 57
15. "Fitting the equipment", page 58
16. "Fitting the front cover 1", page 58
17. "Fitting the front cover 2", page 58
18. "Fitting the side cover", page 58
19. "Connecting appliances", page 59
20. "Assigning addresses to the appliances", page 59
21. "Commissioning the appliances", page 60
22. Removing protective films from glass surfaces

Installing the appliances in a block or in island form



1. "Removing equipment", page 50
2. "Positioning the appliance", page 50

Note

Depending on the space available, step "Fitting the side wall" may have to be carried out first.

3. "Fitting the side wall", page 51
4. "Fitting the ISO partition", page 52 or "Fitting the Plexiglas panel", page 53
5. "Fitting the cables", page 54

Notice

When pushing the appliances, it is vital that you ensure that no cables are jammed or damaged.

6. "Positioning the appliance", page 50

Note

Depending on the space available, step "Fitting the side wall" may have to be carried out first.

7. "Fitting the side wall", page 51
8. "Fitting the cables", page 54
9. Use exactly the same procedure on the opposite appliances.
10. "Securing the appliance to the wall / block (optional)", page 51
11. Optional: "Adjusting the door angle", page 56
12. Optional: "Adjusting the door closing force", page 56
13. "Fitting the covers", page 57
14. Optional: "Fitting the Plexiglas partition", page 57
15. "Fitting the equipment", page 58
16. "Fitting the front cover 1", page 58
17. "Fitting the front cover 2", page 58
18. "Fitting the side cover", page 58
19. "Connecting appliances", page 59
20. "Assigning addresses to the appliances", page 59
21. "Commissioning the appliances", page 60
22. Removing protective films from glass surfaces

Installation and connection

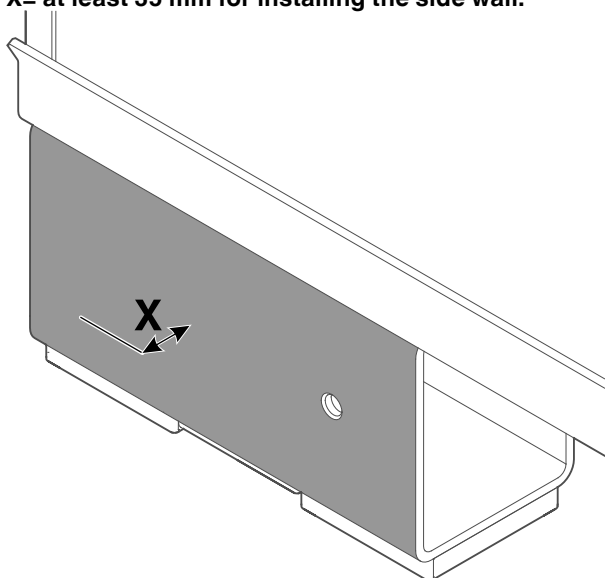
Removing equipment

Note

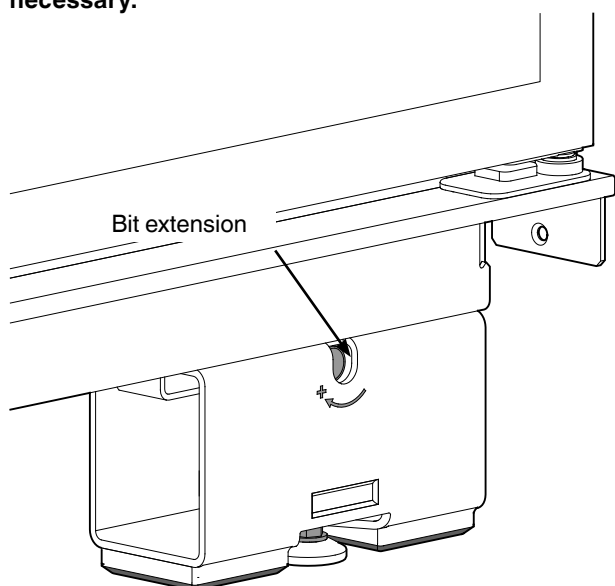
See operating instructions

Positioning the appliance

1. Move the appliance into position using a pallet truck.
2. Adjust the distance to the wall at the rear.
 X = at least 35 mm for installing the side wall.

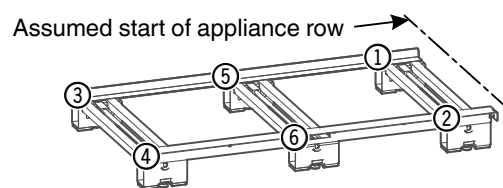
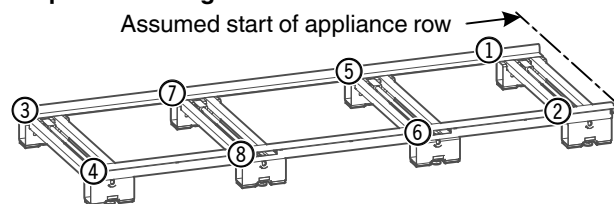


3. Unscrew the adjustable feet 0.5 cm above the baseplate to provide additional adjustment if necessary.



4. Lower the appliance.

5. Sequence for alignment:



Note

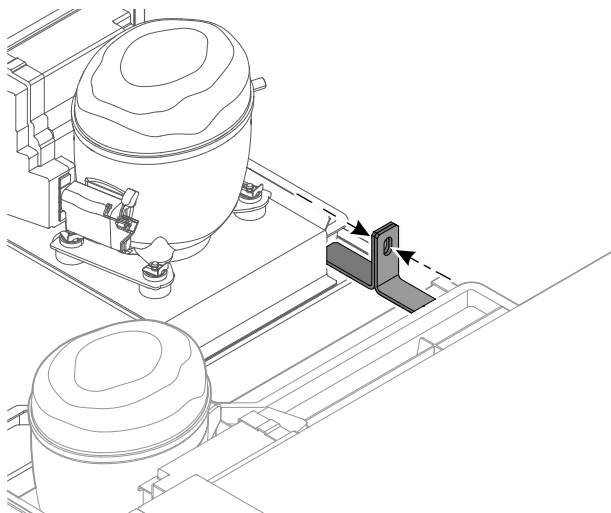
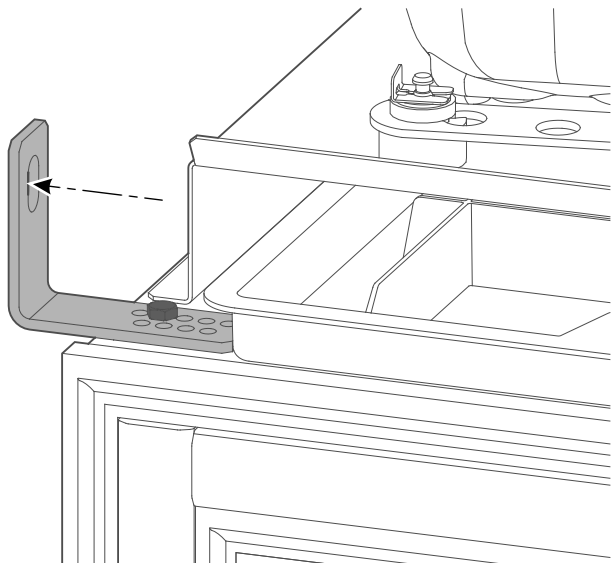
Set up the appliance at a slight angle towards the rear ($< 0.1^\circ$).

Tip: Align device with laser.

This will ensure that the door closes correctly.

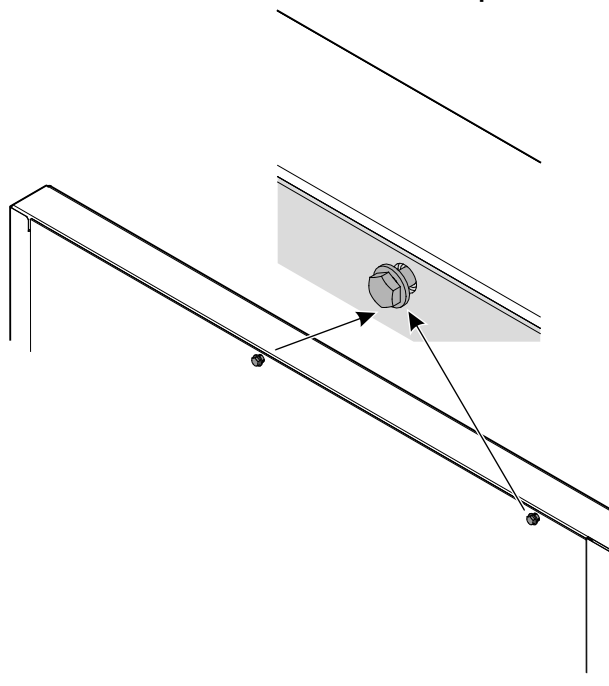
Securing the appliance to the wall / block (optional)

1. Secure the appliance using a fastener suitable for the wall / block.

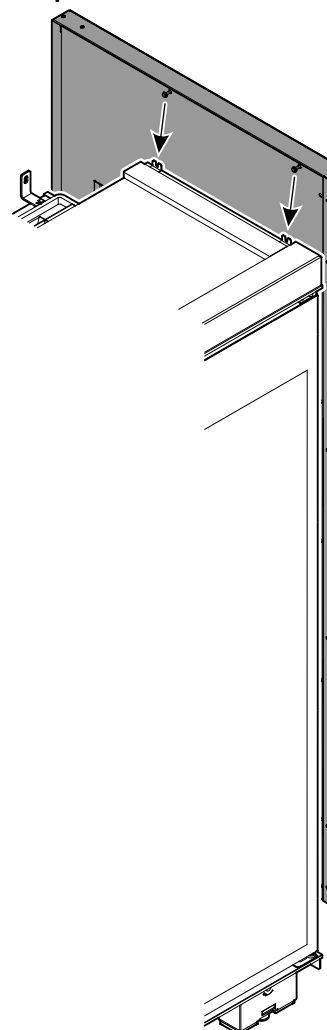


Fitting the side wall

1. Insert two screws with washers at the top.



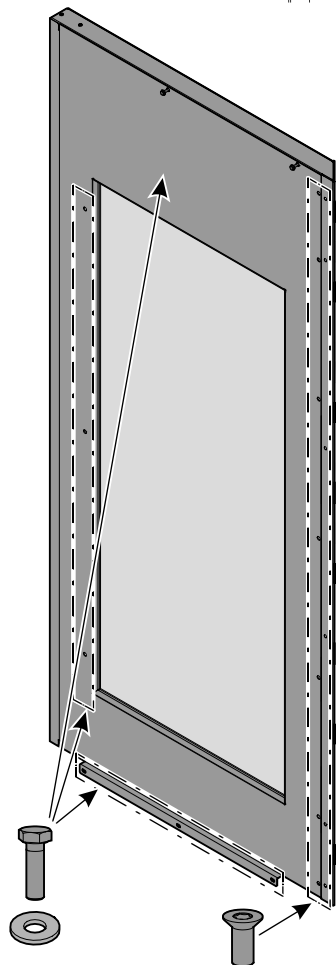
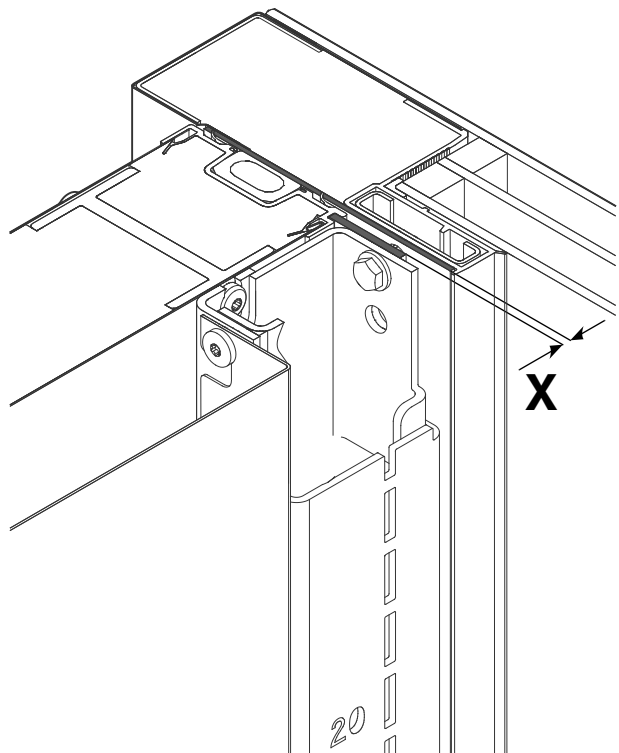
2. Suspend the side wall on the appliance.



3. Secure the side wall with a uniform gap of $X = 3.5$ mm. This will make it easier to remove it later.

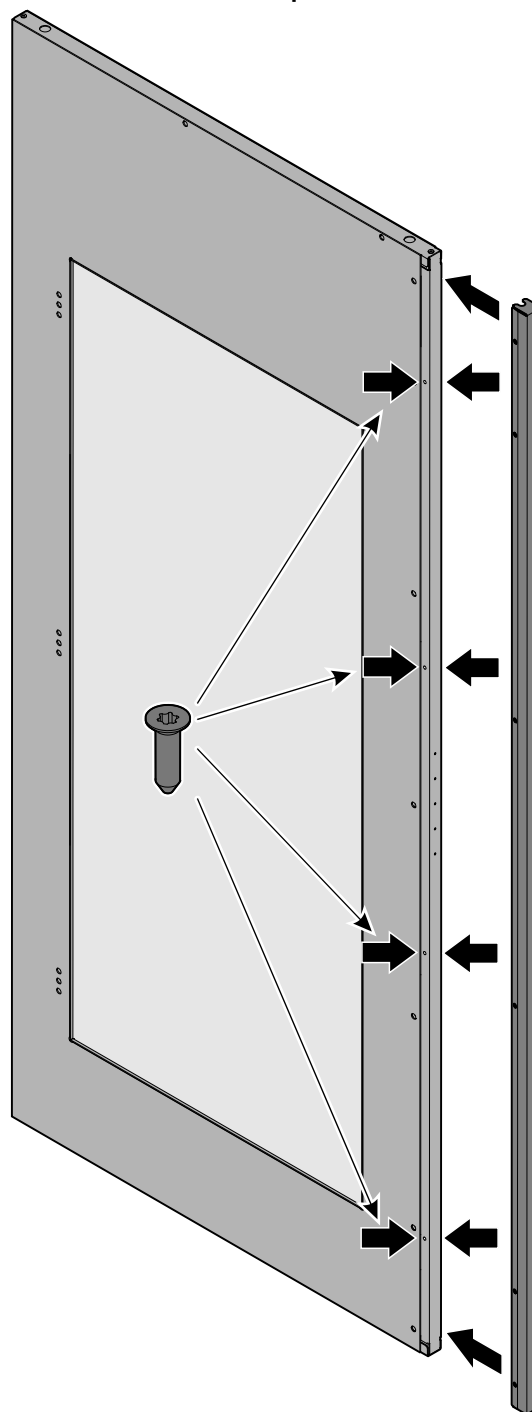
Note

It is possible to climb into the closed drawer for the installation work (max. 80 kg), but this should be avoided if possible.



Fitting the ISO partition

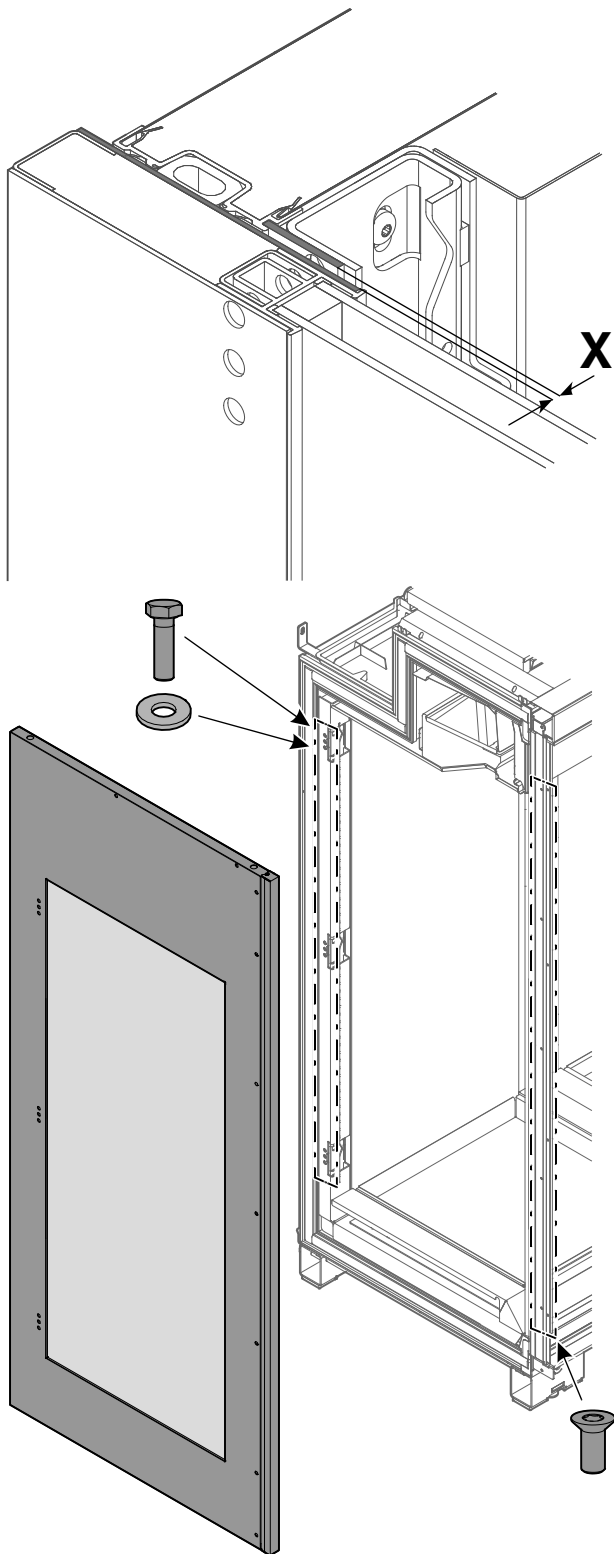
1. Fit the cover on the ISO partition.



2. Secure the ISO partition with a uniform gap of $X = 3.5$ mm. This will make it easier to remove it later.

Note

It is possible to climb into the closed drawer for the installation work (max. 80 kg), but this should be avoided if possible.

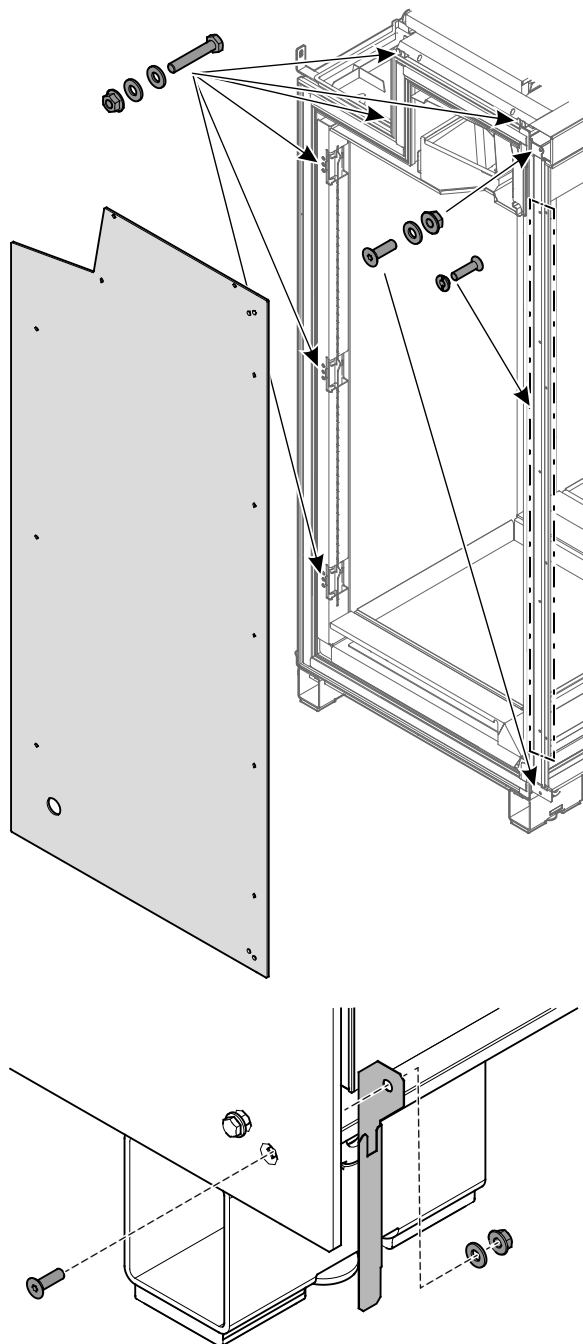


Fitting the Plexiglas panel

1. Fitting the Plexiglas panel

Note

It is possible to climb into the closed drawer for the installation work (max. 80 kg), but this should be avoided if possible.

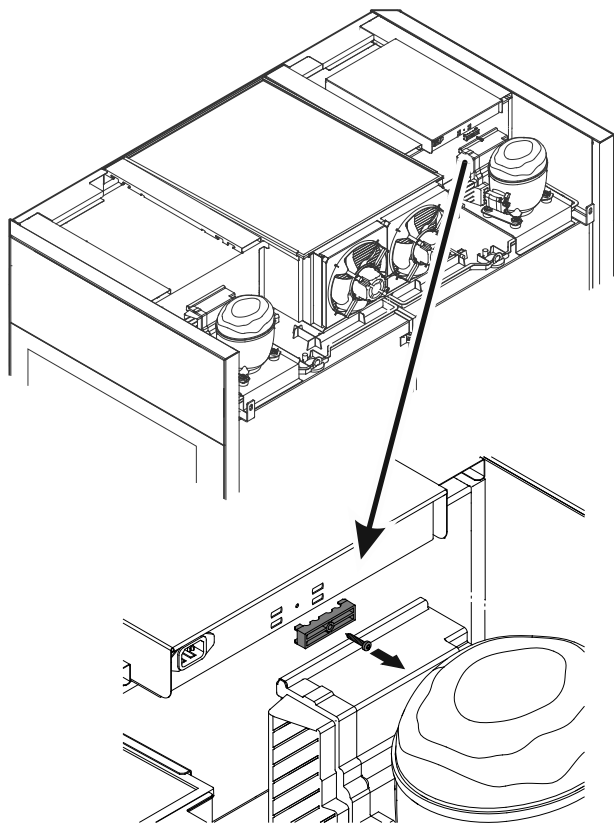


Fitting the cables

Notice

The cables must be routed so that each appliance, including those in rows or blocks, can be pulled out individually without any problems for repair or service purposes. Cables must not be jammed or damaged by this. Use any available cable suspension points.

1. Undo the screw and remove it together with the strain relief device.



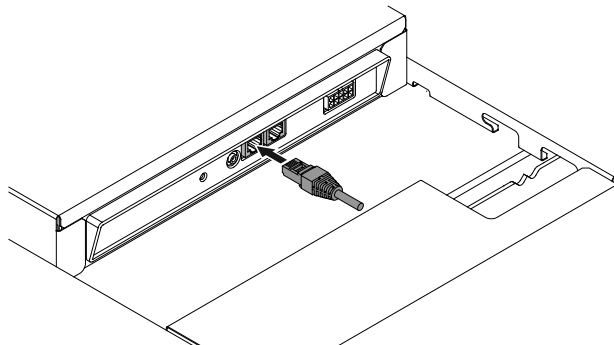
2. Connect the network cable.

Note

The ports (input/output) may be freely selected. The plugs must engage with an audible click.

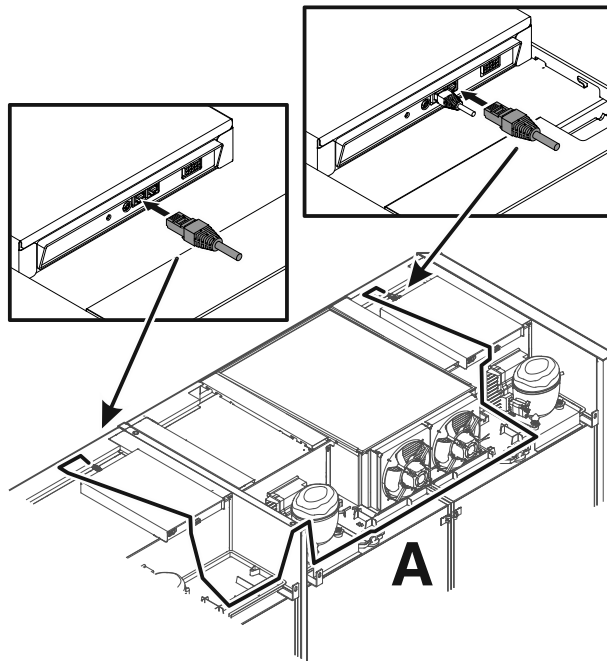
First appliance

- Connect the terminating resistor.

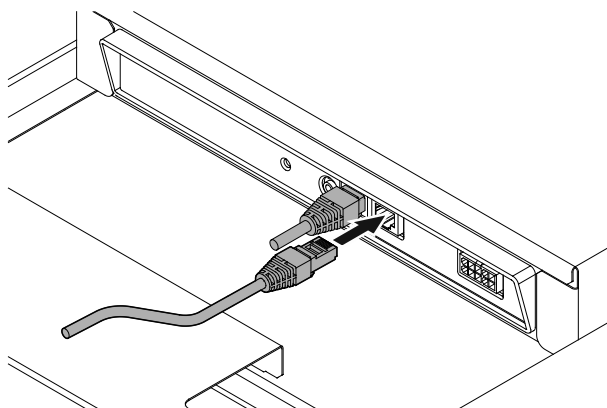
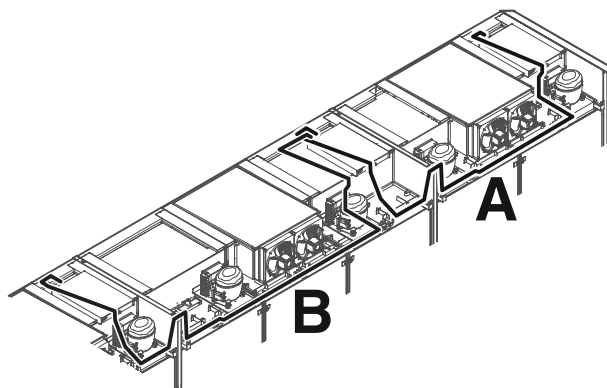


Additional appliances

- Connect one plug of the network cable (A).
- Connect the other plug of the network cable (A) to the next appliance.



- To connect additional appliances, connect the plug of another network cable (B) to the second appliance and then connect it to the next appliance. Continue until all the appliances are connected.



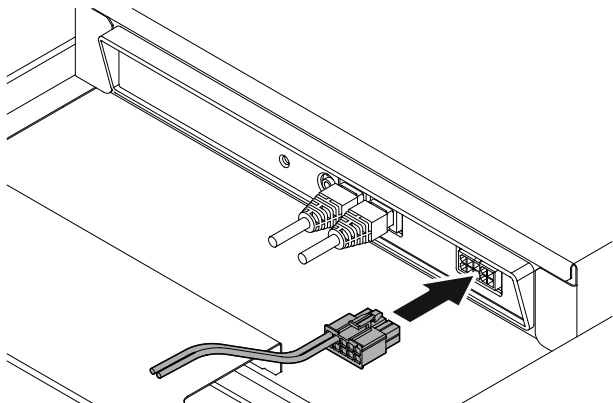
Note

The empty port on the last appliance in a configuration is used for connection to the coupling module and then to the in-house LAN. Both bus ports must therefore be occupied on every appliance.

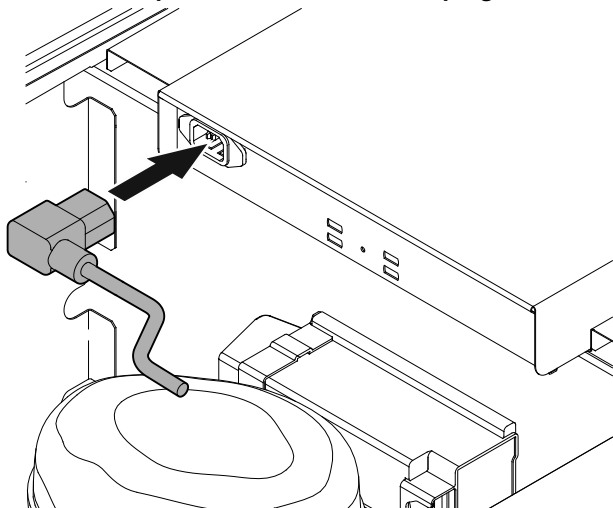
3. **Connect the light cable plug.**
See also "External alarm (floating alarm output)", Seite 55.

Note

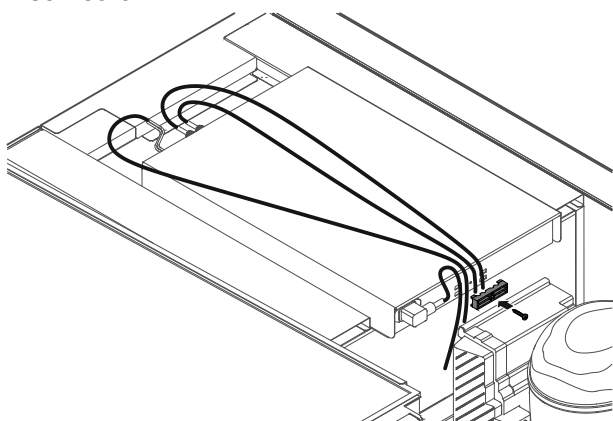
This plug does not need to be connected if the lighting is controlled via the network.



4. **Connect the power connection cable plug.**



5. **Fit the strain relief device, placing the cables in it. Insert screw.**



External alarm (floating alarm output)

It is possible to connect the appliance to an external alarm device.
Crimp contacts can be added to the light cable for this purpose.

Note

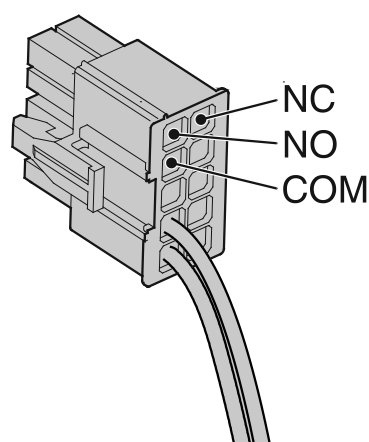
If there is no light cable (e.g. if the lighting is controlled via the network), a plug with crimp contacts is available separately.

The contacts (NC, NO and COM) can be used to connect the appliance to an optical or acoustic alarm device.

The connector is designed for a maximum of 230 V AC/10 A or 24 V DC/5 A from a SELV (safety extra-low voltage) source (minimum current 150 mA).

Notice

When supplying mains voltage to the floating alarm contact, the technical safety requirements of standard EN 60335 will not be satisfied.



1	NO	6	NC
2	COM	7	free
3	free	8	free
4	Light IN (bn)	9	DIGITAL IN 230 V AC
5	Light IN (bu)	10	DIGITAL IN (neutral)

NC operating light

Connection for a control lamp to indicate that the appliance is in normal mode.

COM external power supply unit

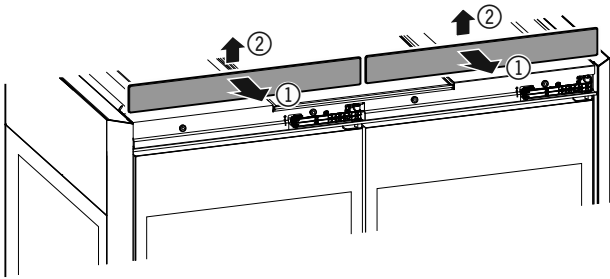
Maximum 230 V AC/10 A or 24 V DC/5 A
Minimum current 150 mA

NO alarm output

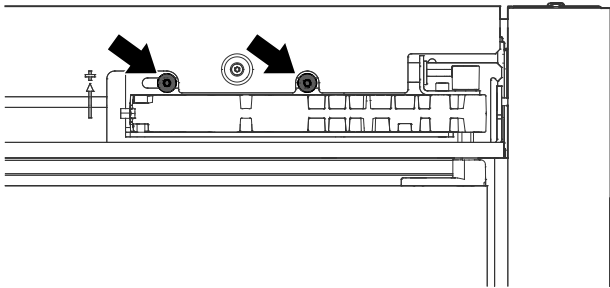
Connection for a visual warning light or an acoustic alarm signal.

Adjusting the door angle

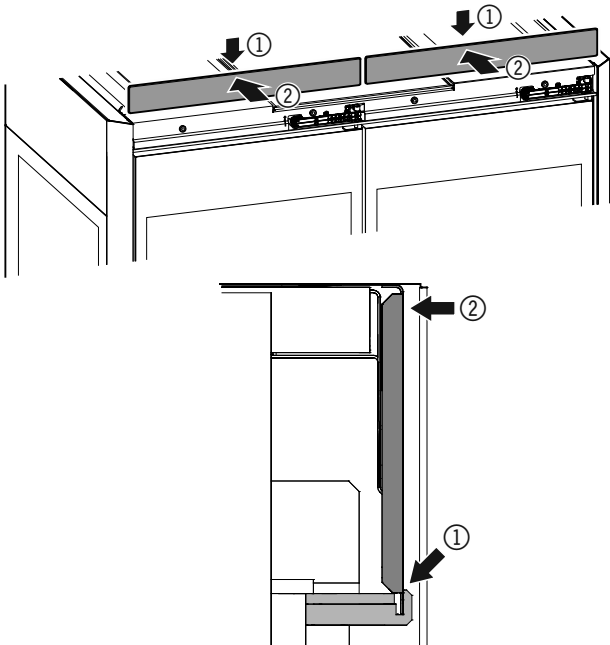
1. Remove the top covers.



2. Adjustment for door angle

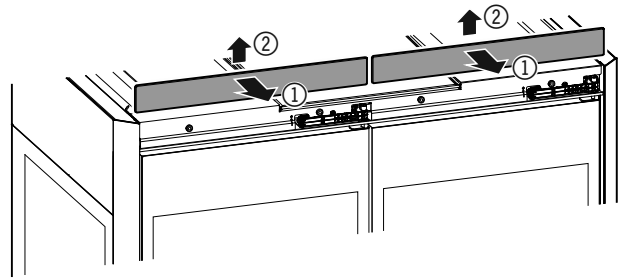


3. Fit the cover.

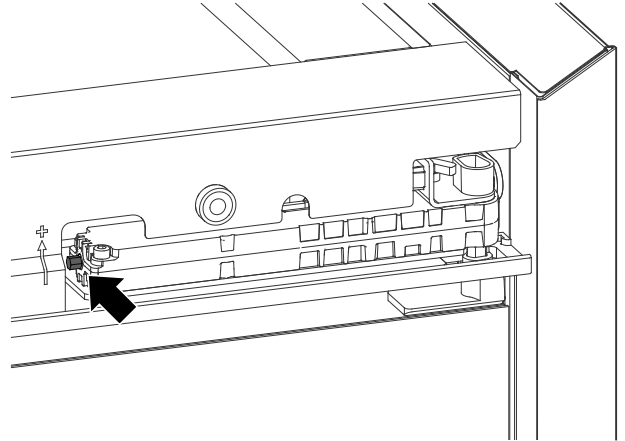


Adjusting the door closing force

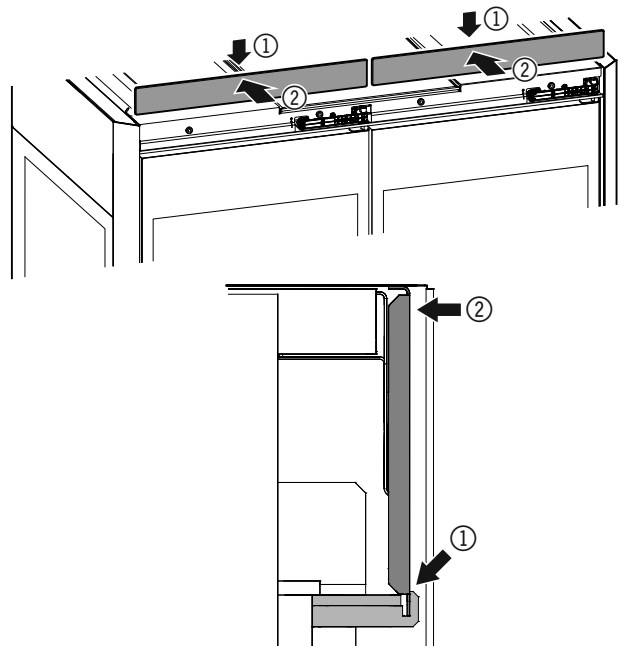
1. Remove the top covers.



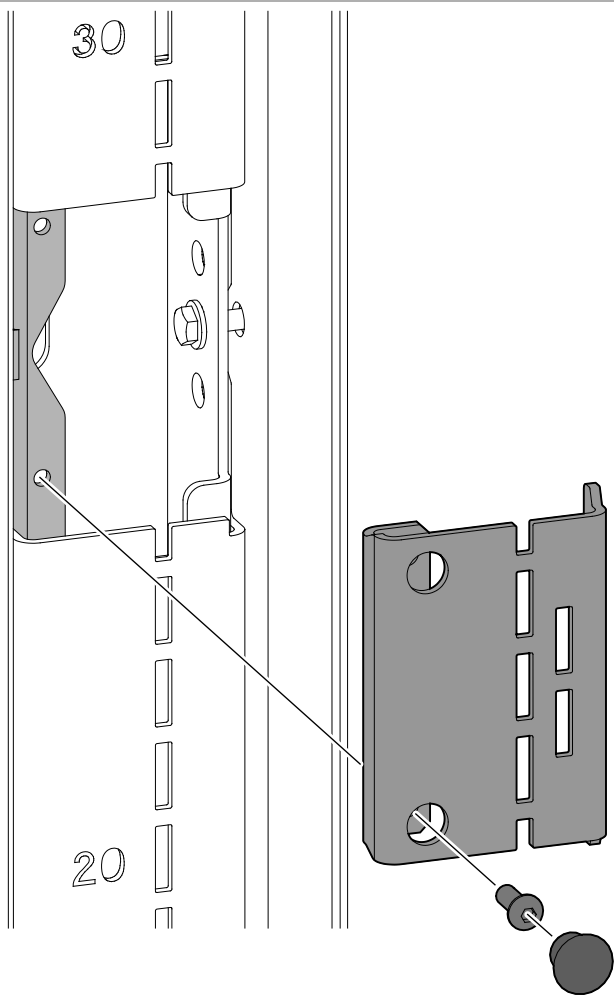
2. Adjust the door closing force by turning the screw.



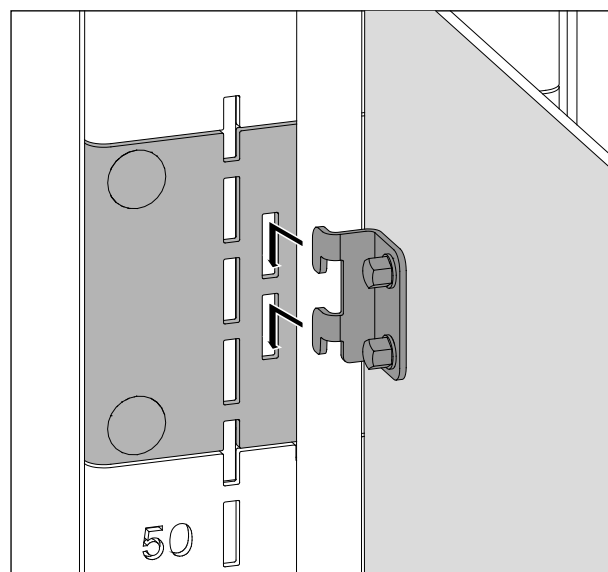
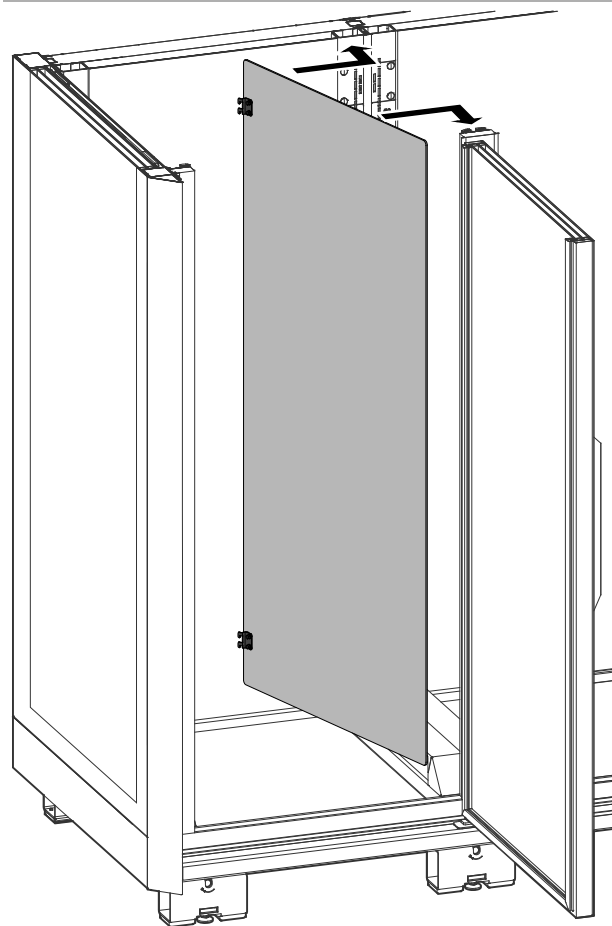
3. Fit the cover.



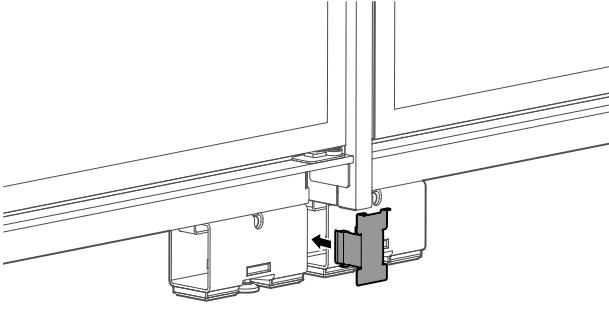
Fitting the covers



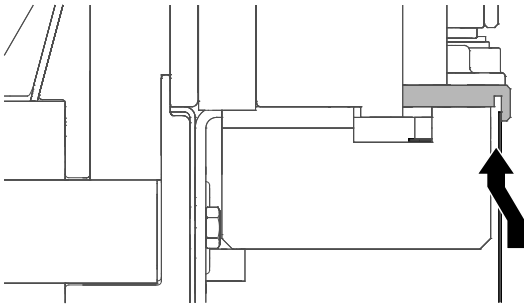
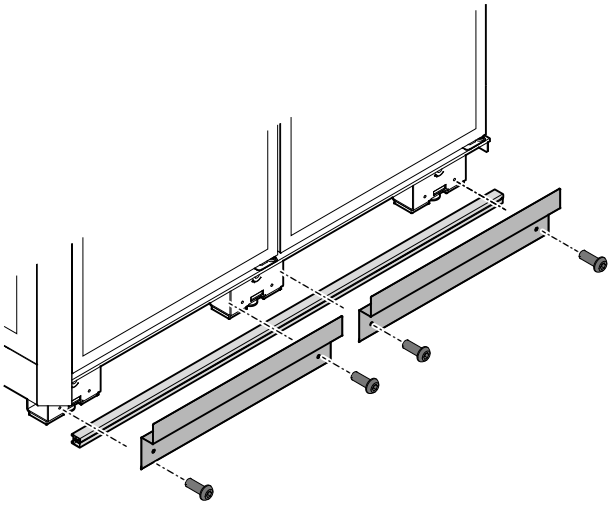
Fitting the Plexiglas partition



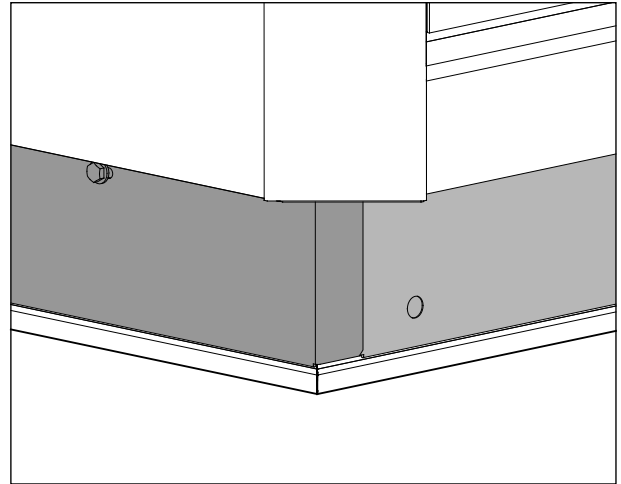
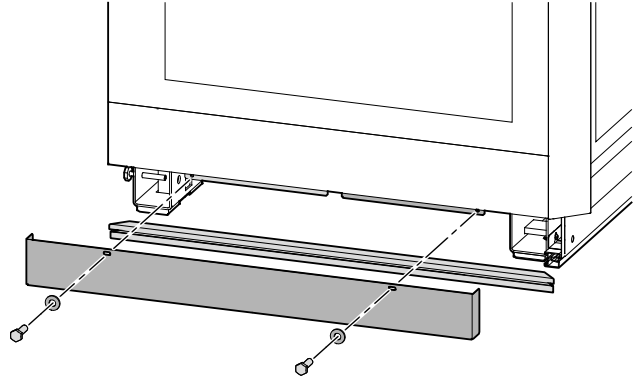
Fitting the front cover 1



Fitting the front cover 2



Fitting the side cover



Fitting the equipment

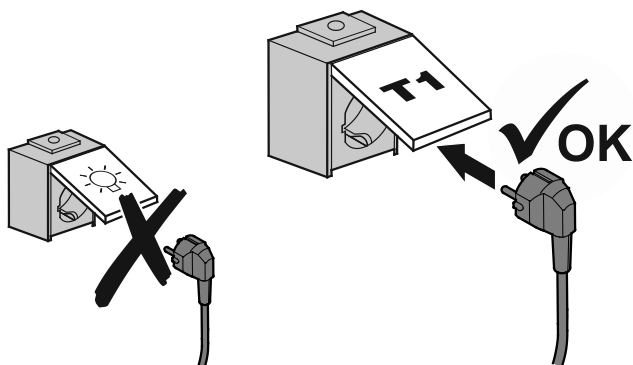
Note

See operating instructions

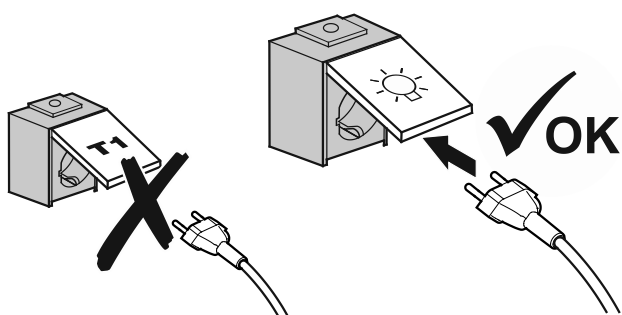
Connecting appliances

If separate circuits are used for lighting and cooling, the relevant sockets must be clearly labelled.

1. Plug the mains plug of the power connection cable into the appropriate socket.



2. Plug the mains plug of the light cable into the appropriate socket.



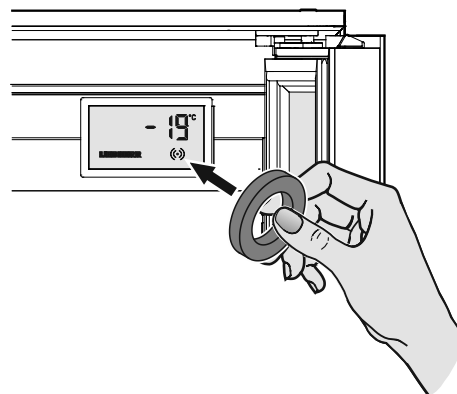
⚠ WARNING

If the mains plug of an appliance is accidentally placed into a lighting socket, when the circuit for the lighting is switched off (e.g. at night), the cooling function will no longer work and the food inside the appliance will be spoiled.

Assigning addresses to the appliances

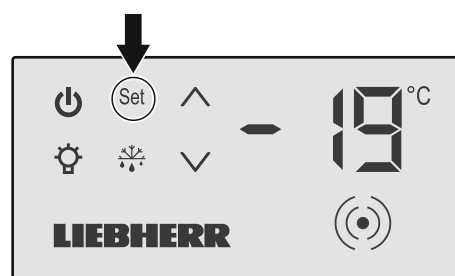
Enter the address (see "Addressing", page 36) on each appliance individually.

- Touch the activation point on the display with the release key.



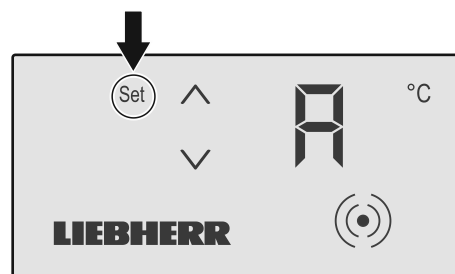
The **control menu** will appear:

- Press **Set** for approx. 5 seconds.



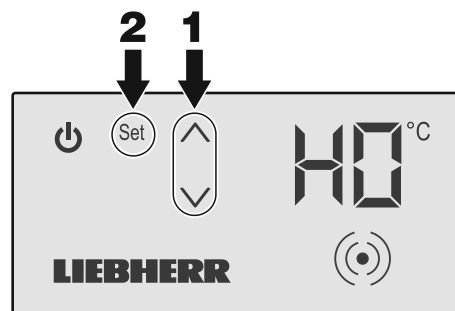
Menu A for entering the address will appear:

- Press **Set** briefly.



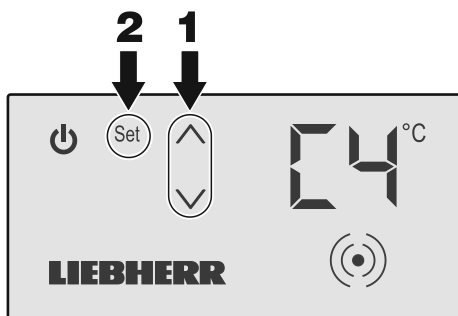
Menu H for entering the hundreds figure will appear; the relevant number will flash:

- Select the required value using $\wedge \vee$.
- Press **Set** briefly to confirm.



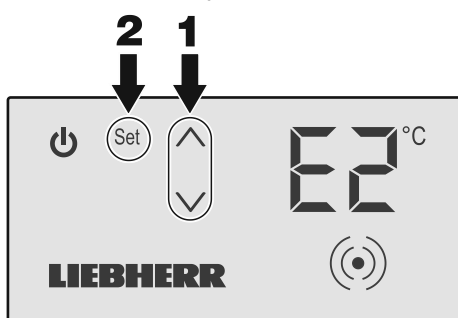
Menu C for entering the tens figure will appear; the relevant number will flash:

- Select the required value using $\wedge \vee$.
- Press **Set** briefly to confirm.

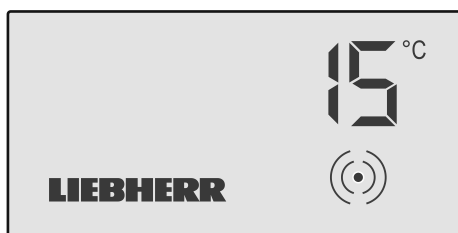


Menu E for entering the units figure will appear; the relevant number will flash:

- Select the required value using $\wedge \vee$.
- Press **Set** briefly to confirm.



The idle screen will appear:



Note

We recommend that the address of each appliance is noted or documented (e.g. an adhesive label on the rear of the appliance) to speed things up for service work.

Commissioning the appliances

Checks

- Test the lighting connections (if the circuits are separate): Remove the light fuses – all the appliances must be unlit. If this is not the case, the plugs on the appliances which are lit have been inserted in the wrong sockets, see "Connecting appliances", page 59.
- Check the appliances for correct functioning and correct temperature setting: Test the various appliances to ensure that they function perfectly. If any defects which cannot be rectified are found, please notify our customer service department.
- Check the addresses: Check the settings of the appliances using the test tool.

Note

Remove the dirt caused by the installation, following the information in the section entitled "Cleaning" in the operating instructions.

This completes the installation work.



See the operating instructions of the relevant appliance for further information about operation.

Technical data

Operating mode	Freezing
Description	Cliff
Overall electrical data (including LED lighting)	
Rated voltage	220-240 V
Frequency	50 / 60Hz
Rated current	13 A
Compressor system inverter (frequency converter)	Yes
Fuse on each appliance	RCBO 16 A Characteristic B, C
Length of mains cable	2.50 m
Interface (standard)	CAN bus
Interface (alternative)	MODBUS
Electrical data for LED lighting	
Power consumption	60 W



Liebherr-Hausgeräte GmbH
Memminger Straße 77-79
88416 Ochsenhausen
Germany
home.liebherr.com

